GEOGRAPHIC SCHOOL BULLETINS

OF THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

JANUARY 10, 1955 VOL. XXXIII, NO. 13

Rivers of the World: The Nile

No Hurry in Your Surrey with a Fringe on Top

Prince Edward Island Forsakes Furs for Farms

Europe's Postage-Stamp Nations

His Ancestors Built the Pyramids—The modern *fellah*, or peasant, of Egypt has been Arabized, and directs his prayers to Mecca, but basically he is the same inscrutable person who toiled for the Pharaohs centuries ago in the fertile valley of the Nile.

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rising to bless Egypt with its annual flood in the heat of summer when most rivers recede. Whence came this mighty tide?

The ancients placed its source in the "Mountains of the Moon." Greek historian Herodotus, and later the geographer Strabo explored the river, but reached little beyond the first cataract, entrance to "Elephant Land." The swampy Sudd, farther south, turned back two expeditions of the Emperor Nero when the province of Egypt was granary of Rome.

Only in the late 19th century was the riddle of the White Nile's source solved. Explorers pressed deeper into the Sudan, breached the swamp barrier. Then in 1862, British explorer John Hanning Speke, coming overland from Zanzibar, stood on the brink of Ripon Falls and realized that here the overflow waters of Lake Victoria started the White Nile on its long journey to the Mediterranean.

Two years later Sir Samuel Baker discovered Lake Albert, another headwater lake, and in 1889 Henry M. Stanley identified the great snow-capped Ruwenzori range as the fabled Mountains of the Moon. He proved the ancients close to the mark, for Ruwenzori waters feed into the White Nile.

What startling changes recent years have brought in this once-remote region! Airplanes drone overhead, steamers ply between thriving lake ports, trucks and automobiles roll over terrain that had not known the wheel a few decades ago.

A mile and a half downstream from where Speke had stood at Ripon Falls, Dr. Gilbert Grosvenor, Chairman of the National Geographic Society's Board of Trustees, and Mrs. Grosvenor on their recent safari through Africa witnessed the 60-foot-high Owen Falls dam nearing completion. This project will bring 150,000 kilowatts of hydroelectric power to all Uganda. By raising the level of 27,000-square-mile Lake Victoria more than

Rivers of the World, No. 5

The Nile: Miracle Giver of Life

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

In the dim mists of antiquity, Osiris, son of the earth-god and the sky-goddess, descended to the valley of the Nile. He brought wheat and barley to the Egyptians, showed them how to harness the ox to the wooden stick plow, how to sickle-harvest the ripe grain and thresh it under the cloven hoofs of cattle. He taught them to weave cloth, to make village homes of brick from Nile mud, and build canals to bring the river's life-giving water to the fields.

Osiris taught the Egyptians thrift and foresight, so they would not want of seed for the next planting, or of food when the waters receded and their fields lay scorched and cracked. He gave them law, government, a calendar, gods to worship. He enriched their lives with arts and crafts, and taught scribes to write on papyrus from the swamps.

But night-dark jealousy seized his brother Set. Set treacherously confined Osiris in a coffin, which he cast into the Nile. Later, hunting boar by the light of the moon, Set discovered the corpse, and raging, cut it into fourteen pieces and scattered them far and wide.

Isis, faithful wife of Osiris, sailed up and down in a boat of reeds until she found the pieces. Her mournful tears falling into the Nile caused it to swell and overflow. Thus born of sadness is the fertile abundance the sacred river in annual flood brings to the dust-choked land. Pitying her grief, the gods restored Osiris to life and immortality, just as each year the dying valley is restored by the new Nile.

Through the ages the Nile captured men's imaginations. It drew scarcely a drop of rain from bright Egyptian skies; no tributary brought it waters in all Egypt's thousand-mile length. The burning sun and thirsty sands drank its moisture. Yet it flowed eternally through the brown desert,

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gnats and giant Nile perch, to *kisra* (wheat cakes), rice, *raub* (curdled goat's milk), *molakhia* (a greasy, spinachlike vegetable), and dates. Swahili as the lingua franca gives way to Arabic. Game vanishes, but storks, sandpipers, teal, geese crowd the banks and soar overhead.

Three Ethiopian tributaries flow in: the Sobat (near Malakal), the Blue Nile, and the Atbara. These all-important tributaries contribute six times the volume of the White Nile once it has paid toll to the Sudd. Torrential May rains in the Ethiopian highlands swell them as much as 25 to 30 feet above ordinary levels. Heavy with silt, they cause the annual fertilizing floods in Egypt. It is literally true to say that the Nile created Egypt with Ethiopian soil.

The Blue Nile, most important tributary of all, flows 850 miles from Lake Tana to join the White Nile at Khartoum, city of Gordon and Kitchener, and capital of the Sudan. An eight-span bridge over the White Nile connects Khartoum with the sprawling mud-brick city of Omdurman, whose 130,000 inhabitants number three times those of the capital. Khartoum lies at the apex of El Gezira ("the island"), a between-river irrigated region where choice long-staple cotton thrives.

The famed six cataracts bar navigation on the 1,000-mile stretch from Khartoum to Egypt. At one point the Nile roars through a 12-mile-long chasm that narrows to a mere 100 yards. Savage 125-degree heat empties the surrounding desert of all life.

A 440-mile airplane ride or 27-hour train trip bypasses this inhospitable stretch and brings the waving palms of Wadi Halfa in view. Here paddle-wheel steamers venture onto the gentled river. Third- and fourth-class passengers camp on crowded decks. An unhurried two-day journey reaches the first cataract at Aswan after passing majestic Pharoanic monuments, scores of sun-baked villages, and hundreds of lateen-rigged feluccas and other vessels laden with cotton, rice, wood, and gum arabic.

Aswan granite built "hundred-gated Thebes" and faced the timeless pyramids. It also built Aswan Dam, keystone of modern Egypt, symbol of man's taming hand, for the 180 sluice gates at Aswan set the new tempo of life in the valley to the north.

This is the real Egypt—the fertile three percent of the nation's land. Here all but a scattering of Egypt's 22,000,000 people crowd an elongated oasis little larger than Maryland, averaging but twelve miles in width. Egypt is the Nile.

K. S. FERGUSON

The Sudd—Shifting channels pose fewer problems for Nilotic tribesmen in dugouts than for captains of stern-wheel steamers.

three feet, it will create the world's largest reservoir, storing irrigation water to slake the Nile Valley's thirst.

Only now that the veil of mystery has been torn aside can we fully comprehend the fabulous variety along the 4,160-mile watercourse of the world's longest river.

At 6,000 feet on a grassy slope in the central African highlands of Belgian Congo's Urundi, four degrees south of the Equator, the Nile is born of ten tiny springs. Starting as the twisting Kagera, it merges 430 miles later with Lake Victoria, world's second-largest body of fresh water.

Leaving the lake's 4,000,000 crocodiles behind, the river tumbles through bush country to lose itself in the octopuslike morass of Lake Kyoga, where Uganda's Bunyoro fishermen's huts dot floating islands. Below, Murchison Falls explodes, the entire river squeezing between rock walls 18 feet apart. Some 500 tons of water hurtle through the cleft each second for a sheer drop of 120 feet.

Crocodiles bask on the mud flats and hippos grunt into the calmed river as it grazes the northern corner of Lake Albert. North, the southern Sudan, land of some 17,000 elephants, also displays herds of graceful impala and antelope. Clouds of smoke rise as Nilotic tribesmen burn the savanna to improve pasturage for their treasured long-horned cattle.

At Juba travelers board a flat-bottomed paddle-wheel steamer. Regal white ibis, orange-billed skimmers, and tall, naked tribesmen stare from reedy banks as the Sudd nears. Here the river mires itself in the world's largest swamp, a wilderness of papyrus, feathery reeds, tall waving elephant grass, lotus, and yellow blossoming ambatch. Steamers grope along channels clawed and hacked laboriously through the insect-infested mass of decaying vegetation. In 1936 a steamer was trapped in a backwater by floating islands and the captain and 22 of his passengers died of starvation before they were found. Like a giant sponge, the Sudd soaks up fully half the river's volume during its 475-mile passage.

Savanna gives way to Sahara. Black Sudan becomes Mohammedan Sudan, where camels travel the desert wastes, and white-robed men pray five times a day toward Mecca. Mud-brick homes replace conical grass-topped huts. Diets change from cattle blood and milk, roasted locusts, tiny dried

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Amid Africa's Cleared Parklands the Victoria Nile Is Born—From an arm of Lake Victoria the world's longest river flows. A new hydroelectric dam now spans Owen Falls (center) and backs waters over Ripon Falls (background).

What is being done? The seven Nile basin countries are considering a TVA-like plan calling for huge storage dams to control the waters of the entire 1,120,000-square-mile valley. A canal across the Sudd would save 800 billion cubic feet of water annually. More immediate is the conversion of Aswan Dam to power production—a project presently underway. A yet bigger dam is projected at Aswan to store more water and provide more kilowatts of power. Egypt's new government sees hydroelectric power as the answer for this coalless, oilless land—power for industries to provide a livelihood for Egypt's growing millions; power to fix nitrogen from the air to make nitrogenous fertilizers to bring new life to the hard-worked soil.

River waters transformed into power and chemical fertilizer may yet be another gift of the Nile.

References—The Nile appears on the National Geographic Society's map of Northern Africa. "Safari from Congo to Cairo," *National Geographic Magazine*, Dec., 1954; "Britain Tackles the East African Bush," March, 1950; "By Felucca Down the Nile," April, 1940; "The Land of Egypt," March, 1926 (out of print; refer to your library); GEOGRAPHIC SCHOOL BULLETINS, Feb. 16, 1953, "Shadoof's Creak Is Music to Egyptian Ears." See also "Daily Life in Ancient Egypt," in the Society's profusely illustrated book, *Everyday Life in Ancient Times* (355 pages, $5.00).

No Hurry in Your Surrey with a Fringe on Top

While the urge to get there fastest puts most Americans behind a motor, some prefer to clip-clop along in more leisurely fashion. Not chafing at the bit to get out of harness, this high-wheeling clientele keeps buggy making a going business in the United States.

The biggest buggy factory—Standard Vehicle Company of Lawrenceburg, Indiana—makes 800 passenger vehicles each year. Besides sulkies, fringed surreys, and phaetons, you can buy their Blue Grass Special or Mail Route model. Other craftsmen turn out special orders.

Fancy Carriages Add a Nostalgic Touch to the Balconied French Quarter of New Orleans

JUSTIN LOCKE

Probably half the United States output of buggies goes to Louisiana's southern "Cajun country," where French-speaking Acadians roll along moss-draped roads behind long-maned Creole ponies. In small bayou towns dealers display the "latest" in motorless carriages, blacksmiths repair iron-rimmed wooden wheels, and stores and doctor's

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

At Luxor, Site of Templed Thebes, Life Goes on Much as It Did in Pharoah's Time

More than 2,000,000 Egyptians dwell among the minarets and skyscrapers of the capital, Cairo—Africa's most populous city, at the head of the delta. A million more pack Alexandria and Port Said, at the corners of the delta's base. Compact little villages, thick as stars, dot the delta flood plain. Irrigation canals carry so much Nile water to their green fields and groves of graceful date palms that little escapes to the sea. Paradoxically, a dam at one of the mouths serves to keep sea water out!

The Nile's annual burden of silt has raised delta farmlands seven feet since Cleopatra's time, 20-30 feet above the level when the pyramids were built. Millions of backbreaking hours at the shadoof (well sweep) lifted water from river level to that of the fields. Early in the last century the first barrages (irrigation dams) were built to pour water into high-level canals. Now delta cotton yields the world's highest output per acre.

In 1902 came the mighty Aswan Dam and perennial irrigation. No longer was feast followed by famine. Periodic releases of stored water through the parched months of spring and summer made it possible for three crops to be grown. Population doubled, then quadrupled, making this fertile shoestring one of the world's most densely populated regions.

But in harnessing the Nile man has destroyed nature's balance. There is grave danger that the miraculous fertility of the soil may progressively be lost. No longer does the river deposit its film of rejuvenating silt over the entire valley. The land now knows no rest, no fallow period. The water table in the ground has risen alarmingly. Drainage, the washing of salts from the saturated land, has become a pressing problem.

In a woodless land, vast amounts of chemical fertilizers are needed to retain fertility. The tonnage of nitrates used has spiraled to 183 times that of 35 years ago. Yet productivity has remained virtually constant. Population pressure is steadily greater; each acre must feed more mouths.

there were over 700 fur farms in full swing. However, Prince Edward Island silver foxes were soon being bred in other parts of North America. World War II cut drastically into the industry, and today's women prefer to be gift-wrapped in mink.

What has happened to silver fox farmers on this fertile Delaware-size island 160 miles east of Maine? "Well, you can always put your hand to the plow and still go to the Charlottetown harness races," mused a farmer of Scottish descent. And P.E.I., as it is called by Canadians, is a good place to turn back to dirt farming, for 85 percent of its acres are suitable for crops. Climate, softened by the Gulf Stream in winter and "air-conditioned" by the Gulf of St. Lawrence in summer, is milder and less changeable than that of nearby New Brunswick or Nova Scotia. This "million-acre garden" yields potatoes, sweet clover, apples, and other fruit and vegetables.

The island's partial isolation adds to its charm. A ferry brings motorists and their cars from the mainland, across a nine-mile strait. Planes fly in from Monckton, New Brunswick. The island boasts no public transportation and life is unhurried. Flocks of wild geese wander along country lanes past farmhouses painted blue, green, and yellow.

The soft sea air produces a soft-spoken people. They have built only one "city"—Charlottetown, the capital, population 15,887. Often considered the birthplace of modern Canada, Charlottetown in 1864 housed the preliminary meeting that led to the formation of the Dominion. French had settled among Micmac Indians on Prince Edward Island in 1720, but it was ceded to Britain by the Treaty of Paris in 1763. The present population of 98,429, densest of Canada's ten provinces, is of Scottish, Irish, English, and French descent. Scot-French cultures predominate as evidenced by menus listing scones and fricot.

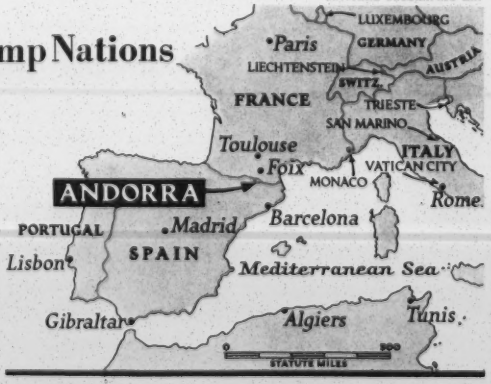
Most famous P.E.I. dish is the Malpeque oyster, known the world over for its flavor. Fishing is second only to agriculture as broad bays send wavy fingers deep into the island, filling the coastal waters with lobsters, clams, and smelts. Fishing boats bring in cod, herring, and mackerel.

Gleaming white beaches skirting the island lure tourists every summer. Near Tignish, thousands visit a gabled farmhouse to relive memories of L. M. Montgomery's famous novel *Anne of Green Gables.*

References—Prince Edward Island is shown on the Society's map of Canada, Alaska & Greenland.

Europe's Postage-Stamp Nations

If you've a bit of the smuggler in you, Andorra is your dish of tea. Smuggling, a respected craft in this tiny Pyrenees principality, grew out of Andorra's position athwart an often-closed border between rival powers France and Spain.



offices keep hitching posts for more than ornaments.

Equally scornful of spark plug and balloon tire are the Old Order Amish farmers of somber garb and German idiom. Through the Amish valleys of Pennsylvania, square canvas-topped family buggies and open bachelor's runabouts clatter along as if Henry Ford had never lived.

While plain buggies still are fairly common in some rural areas, the day of the fancier victoria, brougham, barouche, rockaway, landau, cabriolet, and sociable has passed.

Where are the coaches of yesteryear? A few stand in museums; others careen through the opening chase of Western movies. Buckboards bounce around some estates and dude ranches. A Conestoga wagon, recalling covered-wagon days, recently rumbled into Wheeling, West Virginia.

One New York City stableman rents tallyhos, gigs, coaches, and other old vehicles for special celebrations. A few hansom cabs cruise Central Park but in all fewer than 100 horses now pull vehicles of any sort through New York's motor-jammed streets.

References—GEOGRAPHIC SCHOOL BULLETINS, Feb. 1, 1954, "Horse-and-Buggy Amish Keep Rolling Along."

Prince Edward Island Forsakes Furs for Farms

"Silver fox, you say? No, Madame, mink is the style this year."

This phrase, repeated by furriers in New York and Paris, reflects the quixotic nature of women's fashions. It also has helped deflate the million-dollar silver fox industry which once brought a bonanza to Prince Edward Island, Canada's smallest province.

It all began one day around 1870. For a few dollars and a cow, enterprising Sir Charles Dalton bought two foxes trapped by a harassed chicken farmer. Knowing such pelts brought fabulous sums on the fur market, Sir Charles bred the pair in secret on an isle off Prince Edward and in time completely isolated the silver fox strain. After netting a fortune, he revealed his story and sold a pair for $35,000.

This was the signal for Prince Edward Islanders to cash in. By 1928

Whispering Birches by Trout-Filled Streams Beckon Tourists to Prince Edward Island

CANADIAN NATIONAL FILM BOARD

also provide sanctuary in war and peace. Spanish Republican refugees, fallen American airmen, fugitive Nazis, foreign spies, as well as native smugglers have tramped the cloud-wreathed passes and highroads of this remote land. But Radio Andorra can be heard all over Europe, beaming commercials at France and England, whose national radio networks are ad-free. Electricity lights the rudest peasant hut.

Ruled by two *veguers* (administrative agents) representing the French President and the Spanish Bishop, and their own Council General elected by heads of households only, the 5,900 Andorrans enjoy special privileges in both Spain and France without having to contribute taxes or military service to either nation. Says the French veguer: "Frenchmen look at Andorrans as kings . . . freer than Frenchmen in France."

Andorra is but one of Europe's six pint-sized nations with little land and few woes (map, page 153). The others are Luxembourg, Liechtenstein, San Marino, Monaco, and Vatican City. One other midget—the Free State of Trieste—recently became part of Italy.

Called postage-stamp lands both for their Lilliputian size and the popularity of their stamps with collectors, all six could be fitted comfortably into the King Ranch in Texas. They range in size from the Duchy of Luxembourg—999 square miles and sixth among the world's steel producers—on down to Vatican City, a sovereign papal state, whose 108 acres make a small island in the city of Rome.

Liechtenstein is an operettalike principality you can drive through in 20 minutes without exceeding the speed limit. No larger than the District of Columbia, it is poised in the Alps between Switzerland and Austria. The Arlberg Express crosses Liechtenstein but doesn't stop—there isn't a station. Neither is there an army. Its last soldier died in 1943 at the age of 91.

Whenever the state needs money, it issues a new stamp. Many are reproductions of paintings in the magnificent collection of Prince Franz Joseph II, who lives in a five-century-old storybook castle on a crag overlooking the upper Rhine.

Liechtenstein also derives income from cattle, fruit, wood, wine, and such manufactures as sausage skins and false teeth. Specially discolored sets are made for betel-chewing Thailanders. Low taxes make the 61-square-mile country appear a settlers' paradise. However, $14,000 and a special act of parliament are required for permanent residence. This pretty much keeps Liechtenstein for the 14,000 Liechtensteiners.

PASI FROM THREE LIONS

San Marino, like Liechtenstein and Andorra, is a moun-

Mediterranean Breezes Rattle Palm Leaves over Seagirt Monaco

NATIONAL GEOGRAPHIC PHOTOGRAPHER B. ANTHONY STEWART

An Andorra Farmer Taps an Irrigation Canal to Water His Hard-Won Terraced Crops

Centuries of shadowy dealings in everything from tobacco, olive oil, rich silks, woolens, and spices to cars, trucks, and the latest "high-fi" radio parts have made these lean, dark mountain people tight-lipped. "The fish opens his mouth once too often, and dies," is the old Catalan proverb the Andorran learns in his cradle.

Stubbornly independent since the days of Charlemagne, Andorra, by lingering feudal custom, still pays tribute to its "co-princes": 460 pesetas, six hams, six cheeses, and a dozen hens to the Spanish Bishop of Urgel, 960 francs to the President of France.

"Andorra is too fantastic," said Napoleon, rearranging the map of Europe. "Let it remain as a museum piece."

And a delightful much-alive museum piece it is, with its quaint stone villages and handed-down customs, and its sheep outnumbering people three to one. Terraced hillsides make one fourth of the land arable. In stone-fenced fields farmers grow potatoes, grain, and tobacco.

Andorra's 191 square miles of purple mountain and lofty green meadow

U. S. ARMY, OFFICIAL

The Storied Towers and Battlements of San Marino Frown Down upon Encircling Italy

tain land few of whose 23 square miles are on the level. Most of it perches on Italy's precipitous Mount Titanus overlooking the Adriatic near Rimini. Europe's oldest state, San Marino was founded, according to tradition, in the fourth century by a Dalmatian stonecutter, St. Marinus, who made it a haven from religious persecution. Napoleon called it a model republic. Abraham Lincoln accepted its honorary citizenship. Today, tourists are its chief industry. Exports of wine, ceramics, silk, cattle, building stone as well as postage-stamp sales help support the 13,000 citizens of this tiniest of the world's republics.

Monaco, half a square mile on the French Riviera, boasts both the Monte Carlo gambling casino and one of the world's foremost oceanographic museums. Its royal family—the Grimaldi of Genoa—ascended the throne in 968. Of Monaco's 21,000 inhabitants only 2,000 are citizens, and these few are not allowed at the gaming tables. But in return they pay no personal income tax. Monaco's postage stamps now bring in about twice the revenue of its gaming tables.

References—Europe's "postage-stamp states" appear on the Society's map of Europe and the Near East. Write the Society's headquarters, Washington 6, D. C., for a map price list. "Incredible Andorra," *National Geographic Magazine*, Aug., 1949; "Liechtenstein Thrives on Stamps," July, 1948; "Luxembourg, Survivor of Invasions," June, 1948; "The Smallest State in the World" (Vatican City), March, 1939; *School and library discount price for Magazine issues a year old or less, 50¢; through 1946, 65¢. Write for prices of earlier issues.*